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| 10/808,536 | 03/25/2004 | Masahiko Kurauchi | US-169 | 5925 |

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EXAMINER

OLSON, ERIC

ART UNIT PAPER NUMBER

1623

DATE MAILED: 12/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/808,536

Applicant(s)

KURAUCHI ET AL.

Examiner

Eric S. Olson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,7 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,7 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

This office action is a response to applicant's communication submitted October 16, 2006 wherein claims 1, 3, and 5 are amended and claim 4 is cancelled. This application is a continuation of PCT/JP02/09184, filed September 10, 2002, and claims benefit of foreign application JP2001-297011, filed September 27, 2001.

Claims 1-3, 5, 7, and 14 are pending in this application.

Claims 1-3, 5, 7, and 14 as amended are examined on the merits herein.

Applicant's amendment, submitted October 16, 2006, with respect to the rejection of claims 1 and 5 under 35 USC 102(e) as being anticipated by Murayama (US patent 6143695) have been fully considered and found to be sufficient to remove the rejection as the claims as amended no longer read on as aqueous solution of inosine and arginine as disclosed by Murayama. Therefore the rejection is withdrawn.

Applicant's amendment, submitted October 16, 2006, necessitates the following new grounds of rejection:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-3, 5, 7, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama. (US patent 6143695, reference cited in PTO-1449) Murayama discloses a composition comprising inosine which is useful for promoting the growth of plant roots. (column 3, lines 10-18) One embodiment of this composition is an aqueous solution comprising inosine and further comprising a base, which in one embodiment is a basic amino acid such as lysine or arginine. (column 3, lines 55-67) Another embodiment is a powder or granular preparation. (column 3, lines 60-61) The purpose of the base is to produce an alkaline solution for the purpose of solubilization and preservation of the inosine component. Murayama does not explicitly disclose a composition comprising an equimolar amount of inosine and a arginine as a base, said composition when prepared as a solid, or a method of making such a composition by dissolving both inosine and arginine in water, then drying the dissolution product.

It would have been obvious to one of ordinary skill in the art at the time of the invention to prepare the composition of Murayama using equimolar amounts of inosine and arginine. It would also have been obvious to one of ordinary skill in the art to prepare this composition by the method described in instant claims 3, 4, and 14, by dissolving the two components in water, adding ethanol, and drying the resulting product to produce a solid composition. One of ordinary skill in the art would have been motivated to prepare this composition in an equimolar ratio because it is recognized in the art to use the minimal amount of base needed to deprotonate and solubilize the inosine. One of ordinary skill in the art would have been motivated to prepare the composition as a solid because Murayama discloses that the inosine composition may

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be prepared as a powder or granular preparation. One of ordinary skill in the art would have reasonably expected success in making these modifications because neutralizing an acid with an equimolar amount of a base and recovering the composition as a solid by the method described are routine procedures that are well within the ability of one of ordinary skill in the art.

Thus the invention taken as a whole is *prima facie* obvious.

Response to Arguments: Applicant's arguments, submitted October 16, 2006, with respect to the above rejection, have been fully considered and not found persuasive to remove the rejection under 35 USC 103.

Firstly, Applicant argues that Murayama merely describes an aqueous composition and provides no motivation to prepare an inosine-L-arginine salt as a solid form. However, as noted in the previous office action, Murayama discloses one embodiment of the invention which is a powder or granular preparation comprising the disclosed inosine compositions. Although Murayama does not explicitly state that a composition of inosine and arginine may be prepared in a solid form, this embodiment is clearly suggested by the teaching in column 3, lines 62-67, that, "From the viewpoints of preventing purification or increasing inosine solubility, it is preferred to form inosine into its alkaline aqueous solution which has been added with an inorganic alkali ..., or a basic amino acid such as lysine or arginine. One of ordinary skill in the art would have recognized multiple methods by which this teaching could have been put into practice, including formulating a solid composition comprising both inosine and arginine to be dissolved in water at a later date for administration to a treated plant.

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Murayama further discloses that the composition of inosine with a base possesses improved solubility, which is the same improvement observed for the claimed inosine-arginine salt. One of ordinary skill in the art is capable of easily and routinely preparing a known composition in a multitude of different physical forms. In the case of plant nutritive compositions, such compositions are routinely prepared as solid forms intended to be dissolved in aqueous solution at a later date, for such reasons as stability and ease of storage or transportation. Thus one of ordinary skill in the art would have recognized a solid composition of inosine and arginine as being a useful embodiment of the invention of Murayama, and would have been able to prepare such a composition with only routine and ordinary experimentation.

Secondly, Applicant argues that the specific method of instant claim 14, in which an aqueous solution comprising inosine and arginine is added to anhydrous ethanol in order to produce the claimed solid salt, is a novel method which produces a novel composition. However, this method of precipitating a polar compound from aqueous solution by mixing the solution with an organic solvent is merely an implementation of routine purification procedures known to anyone of ordinary skill in the art, and would be an obvious method by which one of ordinary skill in the art would undertake to convert an aqueous solution into a solid form. Furthermore, Paragraph 0032 of the instant specification also discloses that the same inosine-arginine salt, "may also be obtained, for example, by freeze-drying or spray-drying an aqueous solution containing arginine in an amount equimolar with inosine." Freeze-drying and spray-drying are ordinary and routine methods of converting an aqueous solution into a solid form. Therefore the

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result obtained by the method of claim 14 is not unique or unexpected but is rather one of multiple ordinary and routine methods of preparing the claimed composition, any of which could be practiced by one of ordinary skill in the art with only ordinary and routine experimentation.

Because Applicant's amendment necessitated the new grounds of rejection included herein, the rejection is made **FINAL**.

Conclusions

No claims are allowed in this application. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric S. Olson whose telephone number is 571-272-9051. The examiner can normally be reached on Monday-Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia Anna Jiang can be reached on (571)272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eric Olson


Patent Examiner

AU 1623

11/30/06

Anna Jiang


Supervisory Patent Examiner

AU 1623